LBERICI

CONSTRUCTION CO., INC.

July 1, 1985

ac K W Lutterfield

CS6G Monsanto 800 North Lindbergh Blvd. St. Louis, Mo. 63167

Re: Monsanto CEA 3808 Additional Labor Cost for Revised Acid Proof Pipe Joint Material Main South Trunk Sewer

Attention: Mr. Gordon Grundmann

Gentlemen:

We have been requested to submit our additional construction labor cost for the installation of the 42" V.C. pipe revised joint material on the Main South Trunk Sewer Project at the W. G. Krummrich Plant.

In the past eight months we have experienced many conditions that have affected our construction costs in the installation of the revised pipe joint material for the 42" V.C. pipe sewer. Our opinion is that the following conditions or procedures have increased our construction costs for the installation of the revised pipe joint material:

- 1. The revised pipe joint material is a new material. It was developed by Monsanto and Pennwalt Companies. The plans and specifications do not provide information on the characteristics of the material and there are no field performance test results available for this product. Pennwalt and Monsanto's engineering and plant personnel have instructed, trained, and observed the field installation of the revised pipe joint materials. JSA has not installed any pipe joint material without the constant supervision and inspection of Monsanto's C.E.D. JSA has requested suggestions to improve the construction methods from both Pennwalt and Monsanto and has complied with all of their directives.
- 2. When JSA submitted its proposal, all of the conditions or procedures that would be required to install a newly developed pipe joint material could not be anticipated. The construction and curing procedures for this revised product have been revised or clarified several times since the project started.
- 3. The revised pipe joint material has a percentage of shrinkage. This may be causing additional leaking in the pipe joints. No field test



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data are available for this specific application of the pipe joint material to the largest diameter of V.C. pipe manufactured. JSA is experiencing a greater percentage of leshing in joints than could be reasonably anticipated.

- 4. Pipe joints were exposed to surface water while in their curing period, the result of unseasonably heavy rains combined with failure of the dewatering system to operate, and failure of existing sewer plugs.
- 5. The curing period was disrupted and the pipe joints exposed to low cold weather temperatures because of the safety conditions required by Monsanto during the unloading of benzene.

After a detailed analysis of our construction procedures and review of our construction costs, we have concluded that our construction costs to install the revised pipe joint material have increased two hundred and twenty-one dollars (\$221.00) per pipe joint.

180 42" pipe joints on project @ \$221.00 ea. = \$39,780.00

We have completed thirty-eight (38) 42" V.C. pipe joints. Twelve (12) of these leaked. Repair of leaking pipe joints is thirty-two percent greater than we anticipated and estimated for the project. If present conditions continue, we project that there will be fifty-seven (57) leaking joints on the project. Our construction costs will increase.

57 pipe joints @ \$841.00 ea. = \$47,937.00

The additional cost to retest the sewer lines for the repair of the leaking pipe joints will be increased by eleven (II) tests.

11 tests @ \$516.00 ea. = \$5,676.00

Repair of leaking pipe joints requires additional bulkheads and additional smaller concrete pours for the concrete encasements. This has increased our concrete form and placement cost.

- 11 bulkheads @ \$742.00 ea. = \$8,162.00
- 11 concrete pours @ \$249.00 ea. = \$2,739.00

Additional leaks in pipe joints also delay the backfilling of the sewer trench thus extending the exposure to rain and flooding of the trench resulting in additional cost for clean up. To date our construction clean up costs are, \$23,076.00. If we are experiencing a thirty-two percent increase in repair of

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leaking pipe joints, then thirty-two percent of the clean up cost would be associated with pipe joint repair.

32% of \$23,076.00 = \$7,34.00

The recap of our additional construction costs for installation of the revised pipe joint material for the 42" sewer is as follows:

1. Additional cost to install the 42" pipe joint material

180 ea. @ \$221.00 = \$39,780.00

2. Additional cost to repair leaking 42" pipe joints

57 ea. @ \$841.00 = \$47,937.00

3. Additional cost to retest repaired leaking pipe joints

11 tests @ \$516.00 ea. = \$5,676.00

4. Additional cost for bulkheads and smaller concrete pours

11 bulkheads @ \$742.00 ea. = \$8,162.00

11 concrete pours @ \$249.00 ea. = \$2,739.00

5. Additional cost for clean up

32% of \$23,076.00 = \$7,384.00

We request that after you complete your review of our additional costs, we have the opportunity to review and discuss with you an equitable adjustment to our contract for the additional costs that we are and will be incurring with the installation, cure, repair of leaks, and retesting of joints in the construction of this project.

We are at present preparing for your consideration a statement of the operational plant delays which are extending the completion of this project.

If there are questions or additional information is desired, please advise.

Very truly yours,

Group Vice President

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